

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled)
2. (Canceled)
3. (Canceled)
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29. (Canceled)

30. (Canceled)

31. (Withdrawn) A method of making a read/write arrangement comprising:

forming a FET in a silicon cantilever by doping electrically conductive source and drain regions in a selected surface of the cantilever, the FET being configured to be gated by an electric field which is generated by applying a bias to a substrate separate from the cantilever;

forming a probe on the selected surface of the cantilever; and

forming a heater in the cantilever proximate the probe.

32. (Withdrawn) A method as set forth in claim 31, further comprising:

forming the cantilever to have arms and an end bridge portion which interconnects terminal outboard ends of the arms; and

forming the probe and the heater on the end bridge portion.

33. (Withdrawn) A method as set forth in claim 31, further comprising:

forming a select switch in series with the heater and the device; and

configuring the select switch to control the passage of current through the heater and device.

34. (Withdrawn) A method as set forth in claim 33, comprising the step of forming the select switch to comprise a FET (Field Effect Transistor).

35. (Withdrawn) A method as set forth in claim 33, further comprising:

forming a circuit which is serially connected with the select switch, heater and device,

configuring the circuit to apply a fixed dc current to the serially connected select switch, heater and device using first and second current sources, and the voltage applied across the serially connected select switch, heater and device through the use of first and second voltage sources.

36. (Withdrawn) A method as set forth in claim 35, further comprising configuring the circuit so that the voltages from the voltage sources are applied across the serially connected select switch, heater and device via virtual shorts of trans-impedance amplifiers.
37. (Withdrawn) A method as set forth in claim 32, further comprising configuring the FET to function as the heater.
38. (Withdrawn) A method as set forth in claim 32, further comprising forming the source and drain regions of the FET in the arms of the cantilever.
39. (Withdrawn) A method as set forth in claim 32, further comprising:
forming a second bridge between the arms of the cantilever; and
forming the source and drain portions of the FET on the second bridge portion.
40. (Withdrawn) A method as set forth in claim 32, comprising:
forming a first drain region of the FET on a first arm of the cantilever;
forming a first source region of the FET on a first arm of the cantilever;
forming a second drain region of the FET on a second arm of the cantilever;
forming a second source region of the FET on a second arm of the cantilever; and
forming a doped region on the end bridge portion which forms the heater so as to be electrically connected with one of the first and second source regions, and the first and second drain regions.
41. (Withdrawn) A method as set forth in claim 40, further comprising forming first and second channel portions on the first and second arms respectively.
42. (Withdrawn) A method as set forth in claim 40, further comprising forming the first and second drain regions to have a common portion which spans the end bridge portion.
43. (Previously Presented) A read/write arrangement comprising:
FET means formed in a silicon cantilever by doping electrically conductive source and drain regions in a selected surface of the cantilever, for being gated by an electric field which is generated by applying a bias to a substrate separate from the cantilever, wherein the electrical field changes with changes in distance between the substrate and the cantilever;

a probe on the selected surface of the cantilever; and

heater means in the cantilever proximate the probe for heating and forming a data bit indicative topography in a medium to be engaged by the probe.

44. (Original) A read/write arrangement as set forth in claim 43, wherein the cantilever has arms and an end bridge portion which interconnects terminal outboard ends of the arms, and wherein the probe and the heater are formed on the end bridge portion.

45. (Original) A read/write arrangement as set forth in claim 43, further comprising select switch means connected in series with the heater and the device for controlling the passage of current through the heater and device.

46. (Original) A read/write arrangement as set forth in claim 45, wherein the select switch comprises a FET (Field Effect Transistor).

47. (Original) A read/write arrangement as set forth in claim 45, further comprising:
circuit means serially with the select switch, heater and device for applying a fixed dc current to the serially connected select switch, heater and device, using first and second current sources; and

voltage control means having first and second voltage sources for controlling the voltage applied across the serially connected select switch, heater and device.

48. (Original) A read/write arrangement as set forth in claim 47, wherein the circuit is configured so that the voltages from the voltage sources are applied across the serially connected select switch, heater and device via virtual shorts of trans-impedance amplifiers.

49. (Original) A read/write arrangement as set forth in claim 43, wherein the FET means is configured to function as the heater.

50. (Original) A read/write arrangement as set forth in claim 43, wherein the source and drain regions are formed in the arms of the cantilever.

51. (Original) A read/write arrangement as set forth in claim 43, wherein the cantilever further comprises a second bridge between the arms of the cantilever and wherein source and drain portions of the FET are formed on the second bridge portion.

52. (Original) A read/write arrangement as set forth in claim 43, wherein:
a first drain region of the FET is formed on a first arm of the cantilever;

a first source region of the FET is formed on a first arm of the cantilever;
a second drain region of the FET is formed on a second arm of the cantilever;
a second source region of the FET is formed on a second arm of the cantilever;
and

a doped region on the end bridge portion which forms the heater, is electrically connected with one of the first and second source regions and the first and second drain regions.

53. (Original) A read/write arrangement as set forth in claim 52, wherein first and second channel portions are formed on the first and second arms respectively.

54. (Original) A read/write arrangement as set forth in claim 52, wherein the first and second drain regions are formed to have a common portion which spans the end bridge portion.

55. (Withdrawn) A read/write arrangement comprising:

a cantilever disposed with a medium which is movable relative to the cantilever;
and

a device associated with the cantilever and which is configured to be responsive to changes in electrical field between the medium and the cantilever caused by a change in distance between the medium and the cantilever, the device comprising a plurality of interleaved sensor elements which extend in juxtaposed proximity to one another.

56. (Withdrawn) A read/write arrangement as set forth in claim 55, further comprising:

a heater disposed on the cantilever for selectively heating the medium and for inducing localized topographical changes which represent bits of data.

57. (Withdrawn) A read/write arrangement as set forth in claim 55, wherein the interleaved sensor elements comprise source and drain portions of a FET (Field Effect Transistor).

58. (Withdrawn) A read/write arrangement as set forth in claim 57, wherein the cantilever comprises two legs and a bridge portion which interconnects the legs, and wherein the device is formed on the bridge portion.

59. (Withdrawn) A read/write arrangement as set forth in claim 56, wherein the cantilever comprises two legs and first and second bridge portions which respectively interconnect the legs, and wherein the device is formed on one of the bridge portions and the heater is formed on the other of the bridge portions.

60. (Withdrawn) A read/write arrangement as set forth in claim 58, further comprising electrically conductive traces formed along each leg, the electrically conductive traces forming part of a circuit which is electrically connected with the interleaved source and drain portions of the FET.

61. (Withdrawn) A read/write arrangement as set forth in claim 60, wherein the traces form part of a circuit which is electrically connected with a heater which is formed on the cantilever.

62. (Withdrawn) A read/write arrangement as set forth in claim 61, wherein the traces which form part of the circuit that is electrically connected with the FET and the traces are electrically isolated from one another.